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Editorial

Biotechnology of today represents an important toolbox for the future development of our societies. We find it in the health-care sector concerning diagnostics, tissue engineering and production of biopharmaceuticals. This is the sector that has dominated so far, but now industrial biotechnology in general is growing rapidly and will soon become even more important economically. In a world with scarcity of resources it is important to efficiently use what is available, and also there we see important applications for biotechnology.

The health care sector is very much in focus today. The appearance of multi-resistant bacteria raises challenges that need to be addressed urgently. New antibiotica, hopefully operating with new mechanisms are needed as more and more of the drugs that are used today start to lose their effect.

Access to clean water, in some places taken as natural, while in others there is a lack of clean water and even any water. In these cases, it is of course important to efficiently utilize the water available, but also to clean the water after use. Wastewater treatment is regarded as the largest biotechnological process operated today. Many polluting substances can be degraded by microorganisms, and if that is done anaerobically, then bioenergy in the form of gas is produced concomitantly with purifying the water. Still there is scope for more work since in some areas water treatment is very poor, while in others one starts to see the appearance of pollutants present at very low concentrations, but still with strong physiological effects. The latter are difficult to treat and no golden solution has yet been developed to combat that problem.

The trend to replace petrochemistry with renewable resources has placed biotechnology in focus. Production of biofuels, chemicals and materials from biomass is an active area both regarding research and development of industrial processes. Interesting developments are presented concerning novel process technologies, new organisms or engineered organisms/enzymes for a better catalytic performance. Efficient use of the biomass is a must, and different processes need to be evaluated from a life cycle perspective in order to assure that they are green. A key issue for the future is development of technology to efficiently utilize lignocellulose.

When developing efficient process technology one must apply accurate process monitoring and control, and this part of analysis represents an important part where biotechnology can both play a role and benefit. Synergies with the health sector are obvious.

Enzymes and microorganisms play an important role in food and feed processing. Application of enzymes as additives to feed mixtures improves feed utilization by increasing the digestibility. Enzymes are well established in many aspects of food processing.

What is new is the use of pre- and probiotics as additives in order to favour a good gut microflora. The human microbiome is a fantastic new area where we just start to see an interesting development.

New and engineered organisms represent important challenges. There is still only a small fraction of the organisms in the biosphere that are characterized with regard to metabolic potential and one can expect new processes to be elucidated as well as finding organisms or enzymes well adopted to harsh conditions that might be useful for process technology. As more whole genomes are sequenced, gene fishing becomes more important. Bioinformatics has a lot to contribute here.

BTRE is an open access journal that will cover a broad range of subtopics within biotechnology. The open access makes it possible to spread the information also to laboratories where the library resources are scarce. This is especially important since biotechnology can make an important contribution to the development of many countries where biomass is abundant, but so far most seen as food/feed and waste. By converting the waste into value added products pollution is reduced concomitantly with production of valuable chemicals/materials.

The strategy of BTRE is to offer high class peer review and quick processing of manuscripts. This is important since development goes very fast in the area and a sluggish handling might make a paper outdated already before it is published. The field that the journal covers is quite broad. On the other hand, several of the subdisciplines are interlinked such that process analysis can learn from clinical diagnostics, etc. Moreover, we also intend to have thematic issues with a mix of reviews and original research reports. The ambitions are clear among the editorial board and now it is very much up to the authors and readers to utilize this new source. It is my ambition as editor-in-chief that BTRE will be a well recognized journal with highly cited papers that will constitute a natural outlet for interesting research findings in the biotechnology area.

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